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| 09/856,502      | 09/25/2001  | Tetsuharu Tanaka     | 107348-00119        | 5501             |

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EXAMINER

BOYD, JENNIFER A

ART UNIT PAPER NUMBER

1771

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/856,502

Applicant(s)

TANAKA ET AL.

Examiner

Jennifer A. Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 7, 2005 has been entered. The Applicant's Amendments and Accompanying Remarks, filed November 7, 2005, have been entered and have been carefully considered. Claims 1, 6 and 13 are amended, claims 14 and 15 are added and claims 1, 6 and 13 – 15 are pending. In view of Applicant's arguments, the Examiner withdraws the previously set forth rejections. Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1, 6 and 14 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al.(US 4,781,976) in view of Yoshimi et al. (US 4,721,642).

Fujita et al. is directed to a skin covering for trims of automobiles.

As to claim 1, Fujita teaches that the skin covering comprises a surface layer, a foam

layer and a back layer (Abstract). The Examiner equates the surface layer to Applicant's "skin body". The skin covering is applied to a cloth (column 3, lines 65 – 68 and column 4, lines 1 – 5). Fujita teaches that the surface layer, or "skin body", comprises high polymerization PVC, equated to Applicant's "synthetic resin" and other additives such as titanium oxide as a filler, equated to Applicant's "infrared-ray reflective pigment" (column 2, lines 25 – 55). According to *Knovel Critical Tables*, titanium oxide is an excellent reflector of infrared light.

As to claim 6, Fujita teaches that the skin covering comprising a surface layer, a foam layer and a back layer (Abstract). The Examiner equates the surface layer to Applicant's "upper layer body" and "upper layer" and the foam layer to Applicant's "lower layer" and "lower layer body". Fujita teaches that the surface layer, or "upper layer body/upper layer", comprises high polymerization PVC, equated to Applicant's "synthetic resin" and other additives such as titanium oxide as a filler, equated to Applicant's "infrared-ray reflective pigment". According to *Knovel Critical Tables*, titanium oxide is an excellent reflector of infrared light. Fujita teaches that the foam layer, or "lower layer/lower layer body", comprises a foamed layer of PVC (column 2, lines 55 – 65) and can additionally contain a filler or pigment (column 3, lines 1 - 20). Although, Fujita does not specifically teach certain fillers in the paragraph discussing the foam layer, Fujita does teach that common fillers include carbon black (column 2, lines 50 – 53). The skin covering is applied to a cloth (column 3, lines 65 – 68 and column 4, lines 1 – 5). Fujita discusses the use of tricot fabrics as the cloth layer in prior art trim paneling; it is known in the art that tricot fabrics are a type of knitted fabric.

As to claim 14, Fujita teaches that the back layer can function as an adhesive between the skin covering and the cloth (column 3, lines 20 – 35).

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As to claim 15, Fujita teaches the use of polyvinyl chloride in the foamed layer.

Fujita fails to teach that the surface of the skin is a sueded, roughened surface having a plurality of recesses and projections as required by claims 1 and 6.

Yoshimi et al. is directed to a mold finished material with a soft and velvety decorative surface with a lustrous appearance (Abstract). The material is suitable for the interior parts of an automobile such as instrument panels, armrests and pillar trim panels (column 1, lines 10 – 20). Yoshimi notes that the parts are finished in various ways such as being covered with flocked pile or a skin of suede-like synthetic leather for the purpose of decoration and protection (column 1, lines 1 – 25). Yoshimi teaches that the panel comprises a plurality of pile with lengths of 0.4 mm long on the panel surface (column 3, lines 15 – 30). The Examiner equates this to Applicant's "sueded, roughened surface having pluralities of recess and projections".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a velvety, suede-like finish as suggested by Yoshimi on the surface of the panel of Fujita motivated by the desire to create a decorative panel suitable for use in an automobile which provides protection and has a soft, velvety decorative appearance.

As to claims 1 and 6, Fujita in view of Yoshimi fails to disclose that the titanium oxide filler is present in the amount of 0.3 parts to 10 parts per 100 parts of synthetic resin as required by claims 1 and 6 and that the height of the projections of the roughened surface of the skin ranges from 0.05 mm to 0.35 mm as required by claims 1 and 6. It should be noted that Yoshimi

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teaches a pile height of 0.4 mm of the suede-like surface of the automobile panel. It has been held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). In the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of titanium oxide filler and the height of the projections since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the amount of filler present in the synthetic resin and the skin surface pile height to maximize the infrared reflective capabilities and to create an aesthetically pleasing surface that has a suede-like appearance. Additionally, it should be noted that according to *Plastic Additives: An A-Z Reference*, titanium dioxide, a type of titanium oxide, is the most important white pigment used in PVC and the typical amount required can be between 1 and 10 parts of titanium dioxide per 100 parts of PVC.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita (US 4,781,976) and Yoshimi et al. (US 4,721,642), as applied above, and further in view of Hutchinson et al. (GB 2,331,525).

Fujita teaches a surface layer, or “skin body”, comprising polyvinyl chloride (PVC) and conventional other additives such as plasticizers, stabilizers, catalysts, fillers, pigments and the like (column 2, lines 25 – 37). Fujita teaches that the plasticizers can include phthalic acid esters

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(column 2, lines 35 – 36) and phosphates (column 2, lines 42 – 44). The plasticizers can be present in the amount of 5 to 80 parts per 100 parts by weight of PVC (column 2, lines 45 – 48). Fujita teaches that the stabilizer used can include Ba-Zn stabilizers (column 2, lines 49 – 50).

Fujita in view of Yoshimi fails to teach that the polyvinyl chloride additionally includes an amine-based stabilizer.

Hutchinson teaches a composition for treating vinyl surfaces for protection against environmental exposure and deterioration caused by ultraviolet light. (Abstract). The composition comprises from 0.01 to 20 weight percent of at least one hundred amine light stabilizer (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use 0.01 to 20 weight percent of at least one hundred amine light stabilizer in the polyvinyl chloride resin motivated by the desire to protect the resin from environmental exposure and deterioration caused by ultraviolet light which is a concern for maintaining the integrity and appearance of trims of automobiles.

Fujita in view of Yoshimi and Hutchinson discloses the claimed invention except for that the Ba-Zn stabilizer is present in the amount of 3 parts per 100 parts of the polyvinyl chloride. It should be noted that the amount of Ba-Zn stabilizer is a result effective variable. For example, as the amount of stabilizer increases, the polyvinyl chloride becomes less susceptible to chemical change. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make a mixture where the Ba-Zn stabilizer is present in the amount of 3 parts per 100 parts of the polyvinyl chloride since it has been held that discovering an optimum

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value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the amount of Ba-Zn stabilizer in the polyvinyl chloride to maintain the color and thermal stability of the resin.

### ***Response to Arguments***

5. Applicant's arguments filed November 7, 2005 have been fully considered but they are not persuasive.

Applicant argues that Fujita alone and combination with Watt does not teach the presence of projections having a height in the range of 0.05 – 0.35 mm on the surface of the panel. It should be noted that the Examiner now relies on Yoshimi to teach the presence of projections having a height in the range of 0.05 – 0.35 mm. It should be noted that Yoshimi teaches the use of pile fibers with a height of 0.4 mm to create a velvety, suede-like finish for use in decorative paneling for automobiles. The Examiner acknowledges that the height of Yoshimi does not anticipate Applicant's range, however, the Examiner submits that the range is relatively close to Applicant's range. It has been held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). The burden is upon the Applicant to show that undesirable properties would result from a panel having pile fibers with a height of 0.4 mm.



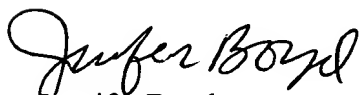
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Applicant argues that Hutchinson does not teach or suggest incorporating the amine light stabilizer in a polyvinyl chloride resin. It should be noted that the claim language does not require that the amine stabilizer is present inside the polyvinyl chloride resin only that it is present in some capacity in the laminate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jennifer Boyd  
January 21, 2006

  
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